



RPU-300

High-power, full-duplex reporter portable unit



- **Main channel TX (broadband):**
 - 16 switchable frequencies in either of following ranges:
 - VHF (130 ÷ 250 MHz) - RPU 300-VU
 - UHF (470 ÷ 880 MHz) - RPU 300-UU
- **Talk-back channel RX (narrowband):**
 - 16 switchable frequencies in following range:
 - UHF (400 ÷ 520 MHz) (It is necessary to keep the minimum distance from TX).

MAIN TRANSMITTER SECTION

- Switchable channels : 16, preset in the ranges: [1]
 - VHF (130 ÷ 250 MHz) - RPU 300-VU
 - UHF (470 ÷ 880 MHz) - RPU 300-UU
- Switching window : 10 MHz - RPU 300-VU
 - 25 MHz - RPU 300-UU
- Frequencies : microprocessor controlled PLL synthesizer circuit, with 25 kHz min. step. They can be easily reprogrammed by DOS-PC and optional UPK 32 Programming kit .
- Frequency error : < ± 5 ppm, in the rated temperature range.
- RF output power : switchable between 3 W / 300 mW (± 1 dB) [1].
- Spurious emissions : complying with the ETSI specifications ETS 300 454
- Antenna connector : TNC type.
- Output impedance : 50 ohm.
- Modulation : FM, with 50 μ s pre-emphasis
- Nominal deviation : ± 40 kHz (Peak deviation = ± 56 kHz).
- Audio input : transformer balanced, floating (XLR-3F connector).
- Audio input level : Micro / Line switchable, and adjustable (for nominal deviation) between:
 - Micro = -52 ÷ -22 dBu (2 ÷ 60 mVrms)
 - Line = -22 ÷ +8 dBu (60 ÷ 1950 mVrms)
- Audio peak-limiter : automatic, with > 20 dB overload capability over the nominal modulation.
- Noise-Reduction system : compander circuit, can be internally pre-set between:
 - ENR (Wisycom Extended-NR)
 - NR (Standard-NR), to be compatible with other systems.
- AF bandwidth : 20 Hz ÷ 20 kHz.
- Frequency response : ± 0.5 dB (± 0.25 dB typ.) in the 40 Hz ÷ 19 kHz range.
- Distortion : < 0.3 % (0.15 % typ.).
- SND/N ratio : > 110 dB (115 dB typ.) [2].
- LED indications :
 - transmitter On (green LED is on)
 - low-power TX (green LED flashes)
 - limiter-on status (yellow LED is on)
 - battery lifetime (100% - 75% - 50% - 25% residual lifetime). When the battery lifetime goes under 12%, the 25% LED blinks.



RPU 300-xx (main transmitter section) complies with ETSI specs: ETS 300 454.

UHF COMMUNICATION RECEIVER SECTION:

- Switchable channels : 16, preset in the 400 ÷ 520 MHz range [1].
- Switching-window : > 5 MHz (others on request).
- Frequencies : with microprocessor controlled PLL frequency synthesizer circuit. They can be easily reprogrammed by DOS-PC and optional UPK 32 Programming kit .
- Frequency error : < ±2 ppm, in the rated temperature range.
- Channel raster : 25, 20 or 12.5 kHz [1].
- Antenna connector : BNC type.
- Input impedance : 50 ohm.
- Modulation : FM (nom. deviation = ±3.3, ±2.7 or ±1.7 kHz, depending on the channel-raster).
- De-emphasis : 750 µs (internally excludable - default).
- RX sensitivity : < 0.3 µV, for SND/N = 20 dB (CCITT measured).
- Adjacent ch. selectivity : > 73 dB [3] .
- Intermod. rejection : > 85 dB.
- IIP3 : +10 dBm (Input 3° order Intercept Point).
- Desensitisation : > 91 dB.
- Co-channel rejection : > -2 dB.
- Amplitude characterist. : < 0.5 dB (for input signal between: +6 ÷ +110 dBµV).
- Spurious emissions : < 0.2 nW.
- Audio output level : max. 3.8 Vrms, with external volume control.
- AF output impedance : 10 ohm.
- AF output connector : 1/4 (6.3 mm) standard stereo-jack connector.
- Noise-Reduction system : compander circuit, with NR (Standard-NR) setting (internally excludable).
- AF bandwidth : 250 Hz ÷ 4.5 kHz (-3 dB) [3].
- Distortion : < 3 %.
- SND/N ratio : > 90 dB (95 dB typ.), excluded de-emphasis, included NR system (CCITT measured) [3].
- Squelch : internally adjustable (or excludable).
- LED indication :
 - receiver On (green LED is on)
 - open squelch (yellow LED is on).

RPU 300-xx (communications receiver section) complies with ETSI specifications: ETS 300 086.

COMMON SPECIFICATIONS:

- Temperature range : -10 ÷ +55 °C.
- Power :
 - dry-cell battery-pack, 10 x IEC-LR14 (1.5V alkaline) batteries (standard supply);
 - rechargeable battery-pack (optional);
 - external-feeding adapter (9 ÷ 15 Vdc / 900 mA max., negative ground) (optional).
- Battery lifetime : approx. 4 hours continuous working (with dry-cell). The battery lifetime heavily depends on the dry-cell quality.
- Dimensions : 160 x 50 x 280 mm
- Weight : 2,7 Kg approx, including battery pack.

NOTE [1]: according to local regulations.

NOTE [2]: RMS value, unweighted, 22 Hz / 22 kHz and referred to peak-deviation.

NOTE [3]: for 25 kHz channel raster.

STANDARD ACCESSORIES:

- AWB 300 - UHF miniflex antenna, for RX-section.
- AWT 300 - UHF whip antenna, for TX-section.
- DBP 300 - Dry battery power-pack (10 x 1,5 alkaline IEC LR14 batteries).
- SLP 300 - Shoulder-belt leather pouch.

OPTIONAL ACCESSORIES:

- AMB 05 - UHF magnetic-base antenna, for RX section (5 m cable).
- AMT 05 - UHF magnetic-base antenna, for TX section (5 m cable).
- CDE 150 - External 9 ÷ 15 Vdc feeding adapter (150 cm cable, open wire).
- DLP 300 - Lead rechargeable-battery power-pack.
- PTT 300 - Intercom-operating reporter PTT push-button (Option ITC300 in the base Unit is needed).
- UPK 32 - Working-frequencies user programming kit (interface + software).